

Name _____

MAKING A HOMEMADE SUNSPOT VIEWER

MATERIALS NEEDED:

Telescope
12-inch square piece of cardboard
Pencil/scissors/tape
White poster board
Building, tree, or adjustable music stand
Tracing paper



WARNING!!! It is never safe to look directly at the Sun because the Sun's rays can damage your eyes. It is safe to study the Sun's surface if you use a telescope to *project* the Sun's image onto a piece of paper.

PROCEDURE:

1. Set up a telescope *as if* you were looking at the Sun.
2. Cut a small hole in the center of the 12-inch square piece of cardboard.
3. Tape the cardboard with the hole in the center onto the large lens of the telescope. This cardboard serves 2 purposes. First, the outline of the cardboard will cast a shadow onto the second piece of paper which will make it easier to see the Sun's image. Second, the hole in the center will focus the image of the Sun on the second piece of paper.
4. Tack a piece of white poster board to a building or tree. If none are available, use an adjustable music stand. Focus the image of the Sun onto the piece of white poster board.
5. If the distance and focus are correct, on the poster board you should see a circle of light (the Sun's image) that is brighter at the center and darker around the edges. Inside the circle you should see some small dark spots which are sunspots. Trace the Sun and any sunspots that you see on the tracing paper.
6. Trace the Sun and its sunspots every day for 10 days if possible, weather permitting. Be sure to date each paper. Try to trace the Sun at the same time each day. Label your dots A, B, C, etc., to show their movement.

RESULTS:

When the distance and focus are correct, you should expect to see a circle of light (the Sun), which is brightest at the center and darker around the edges. Inside the circle, generally toward the middle of the Sun, you will see small black dots; these are sunspots!

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